

The Arizona Broadband Map

Arizona Broadband Development Council

September 29, 2011



ASET

Arizona Strategic Enterprise Technology Office of ADOA



Arizona State
Land Department

The Arizona Broadband Map

Purpose and Goals of the Map

- Provide Public access to the State Broadband Initiative data in a geographic context that is more appropriate for Arizona
- Provide a mechanism to publish “Arizona centric” data in a map format to facilitate the development of broadband capabilities in Arizona



The Arizona Broadband Map

Current Data Contents of the Map

- Broadband Service Provider Data
 - Location of Broadband service technology types (Cable, DSL, Wireless etc.)
 - Location Broadband service speed tiers
 - Providers at any location in Arizona
- Community Anchor Institution (CAI) Data
 - Type of Community Anchor Institution (Schools, libraries, Police stations, Fire stations, other (government office buildings – state, county, municipal and tribal)
- Geographic Reference Data



The Arizona Broadband Map

Map User Interface is a Flex based viewer

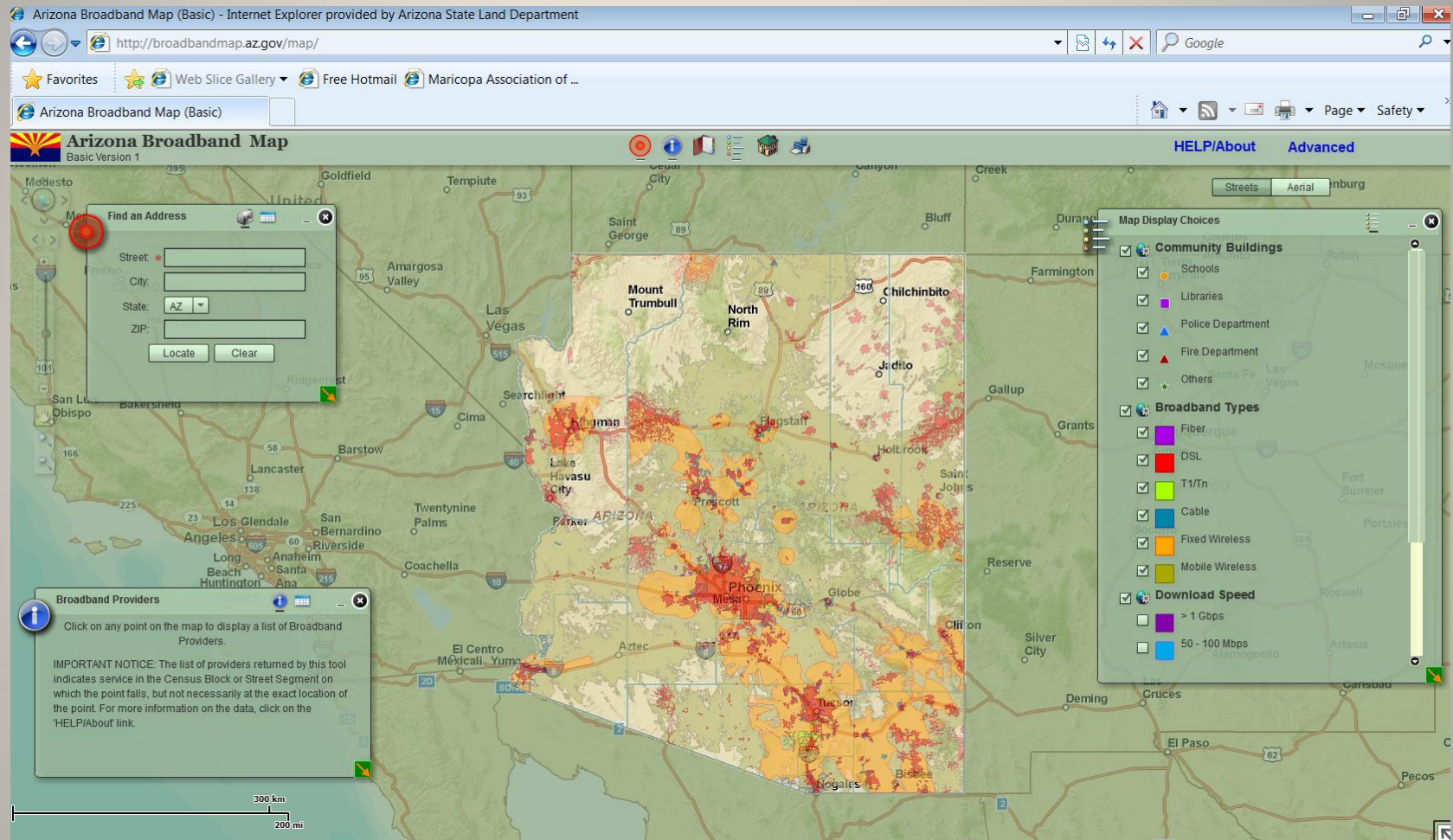
Rich Internet interface in two versions

- **Basic** – basic information on Broadband services and Community Anchor Institutions (CAI) - For users who just want basic service location information and do not want to spend time learning the more complex data exploration interface components of the advanced version
- **Advanced** – provides capabilities for exploring and combining broadband data sets and contains a richer set of data for viewing – Will require additional learning time for users to maximize their use of the map



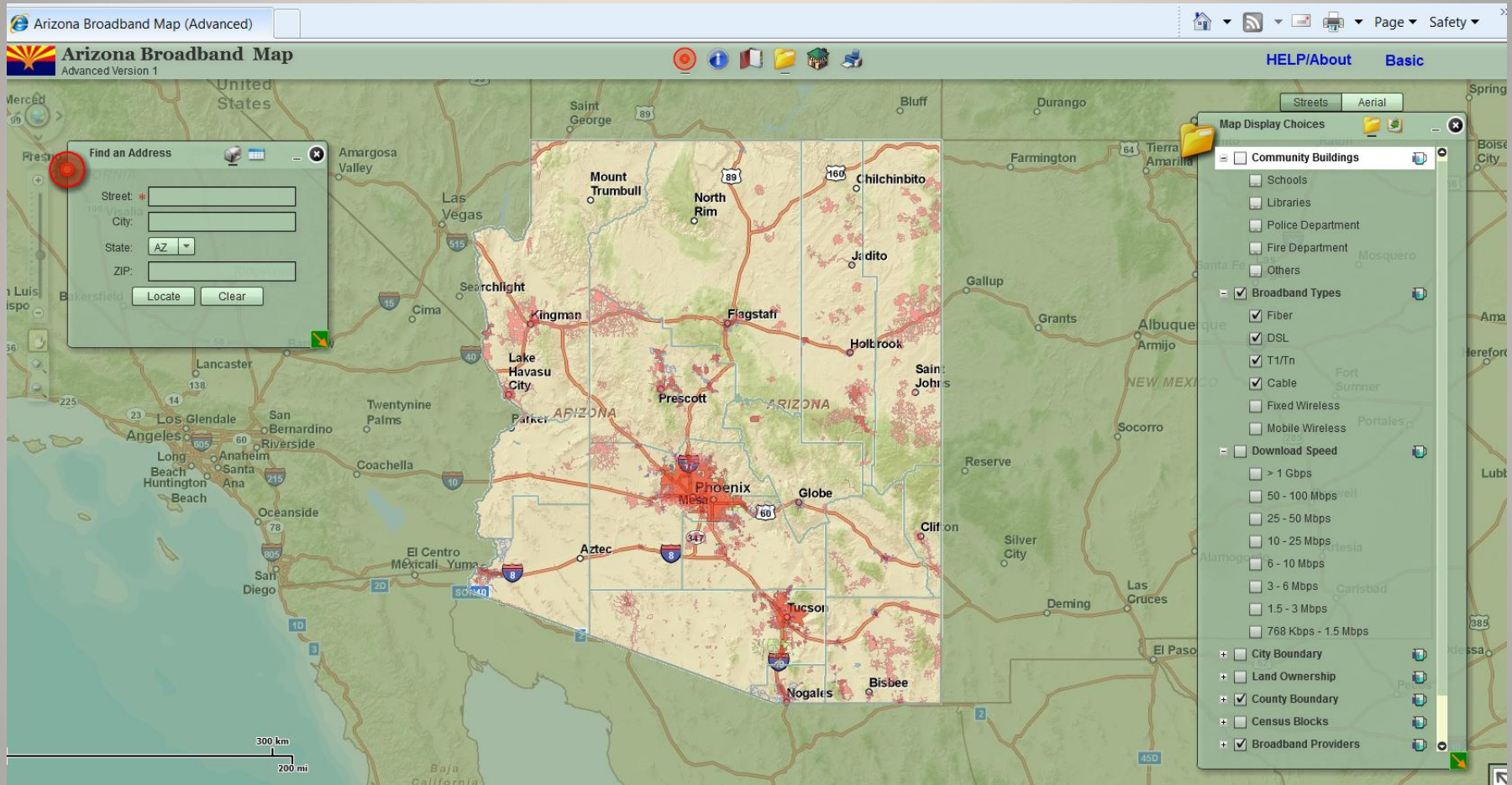
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User Interface – Basic Version



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User Interface – Advanced Version



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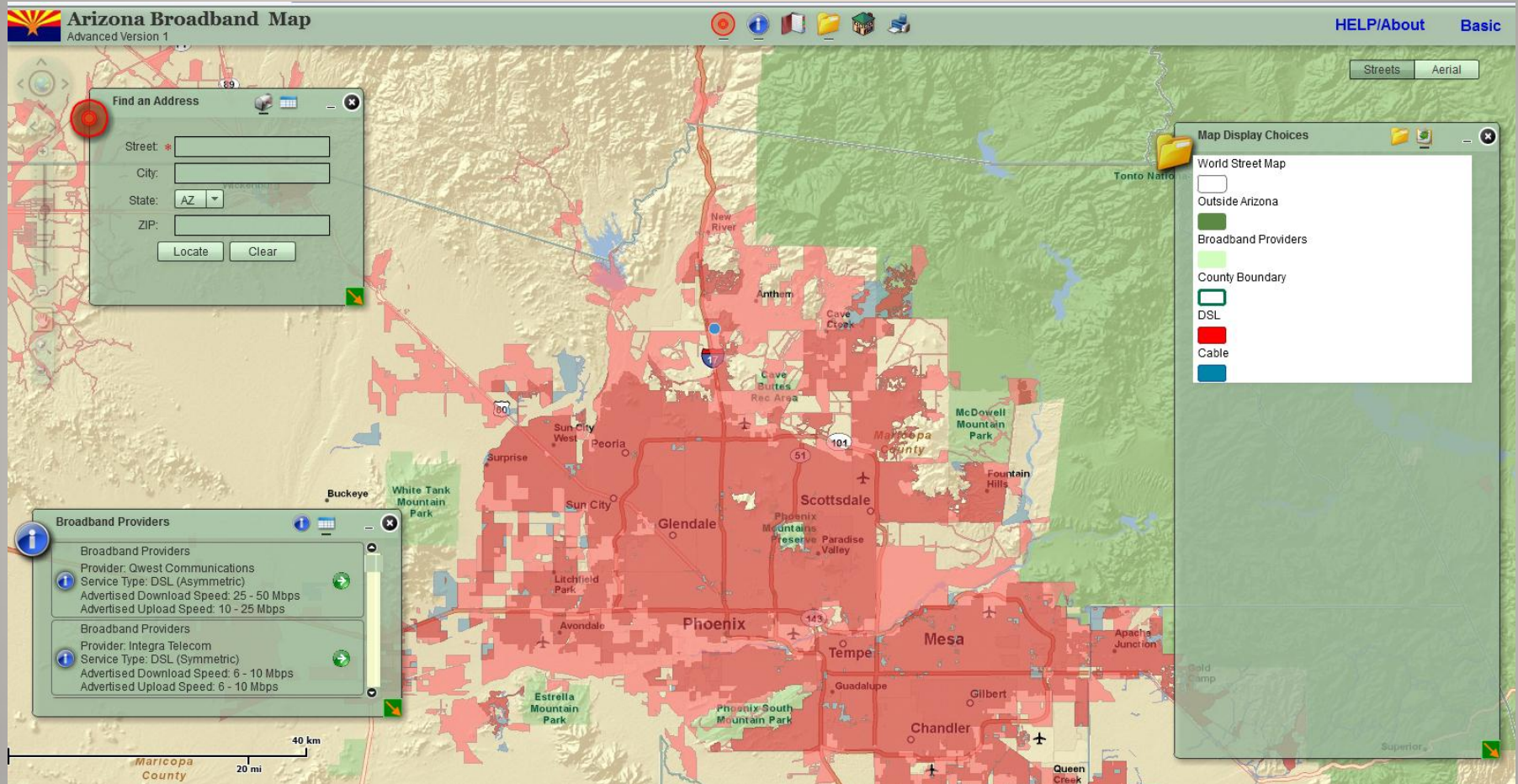
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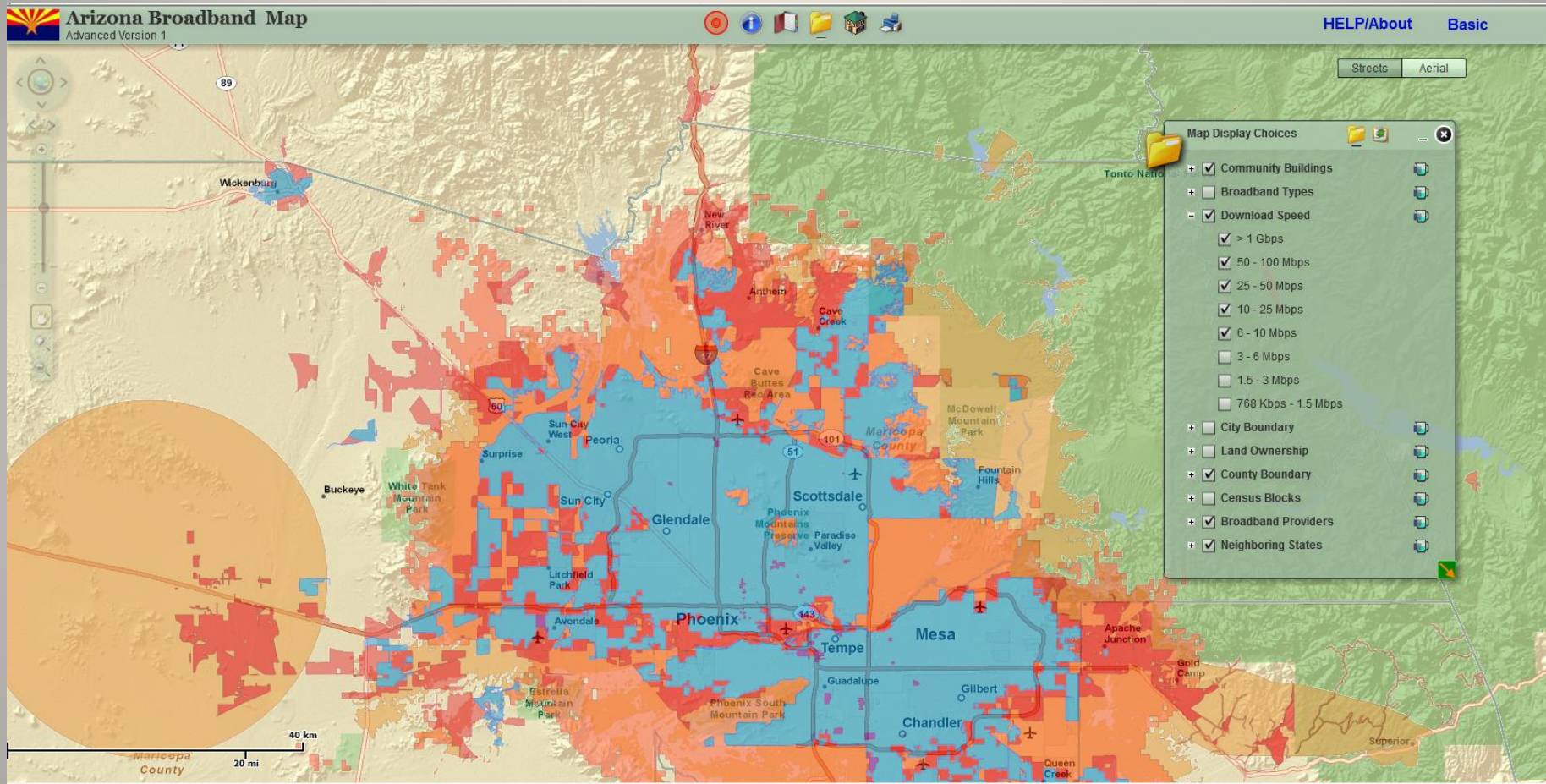
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Data – BB Provider data – Technology types



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Data – BB Provider data – Download speed



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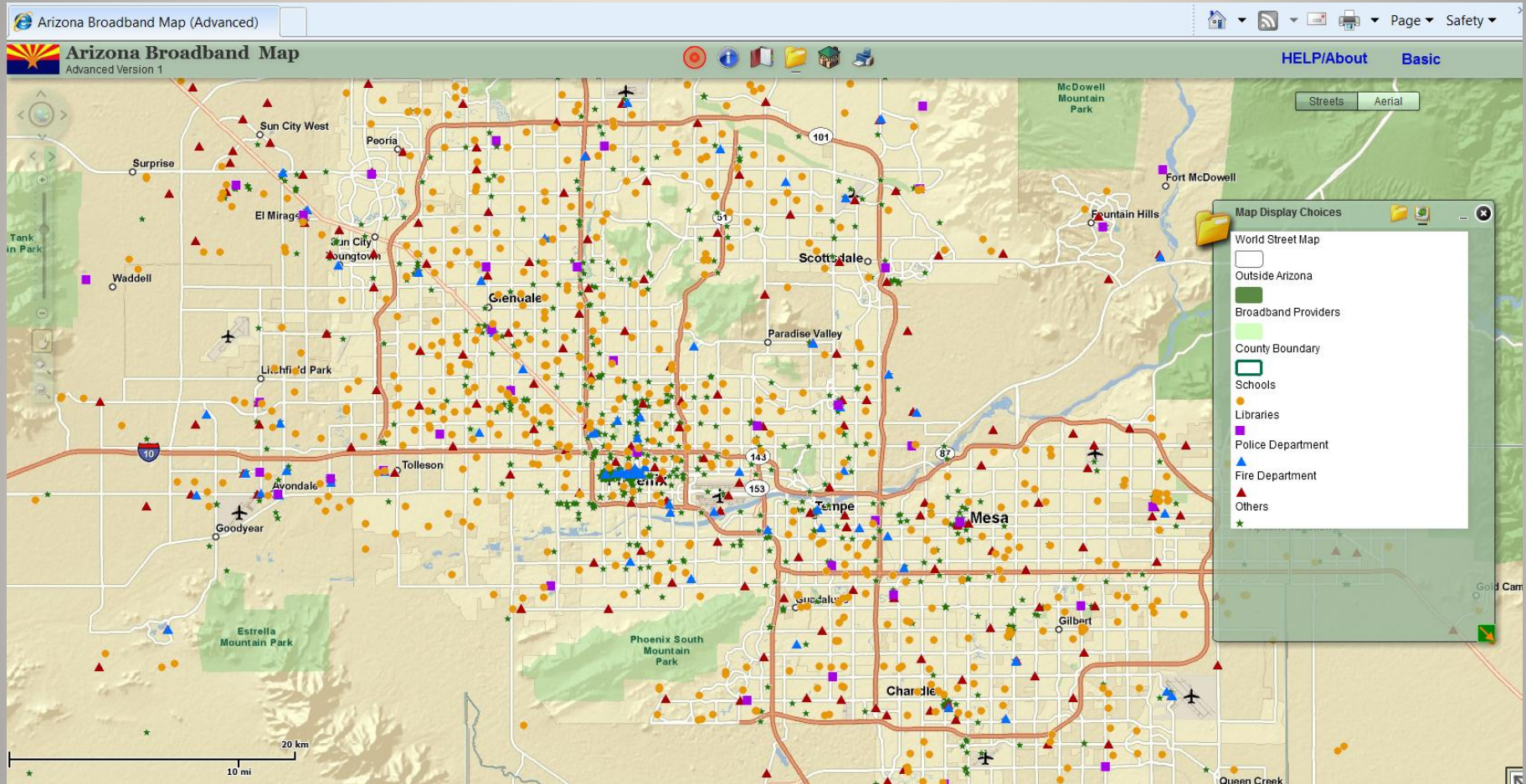
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Data – Community Anchor Institutions



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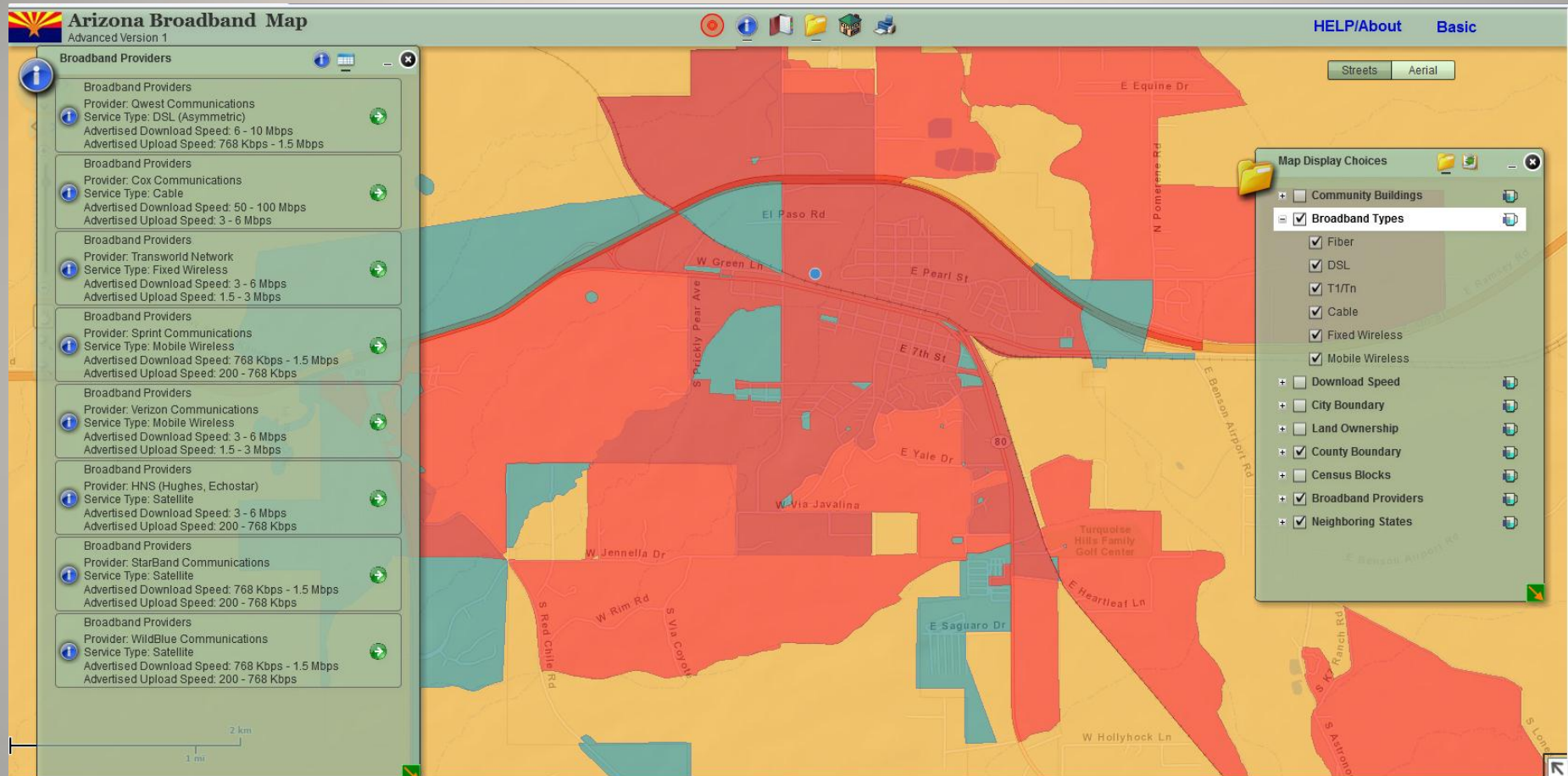
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Information identification - Broadband providers, technologies and speeds (download and upload) at any location in Arizona



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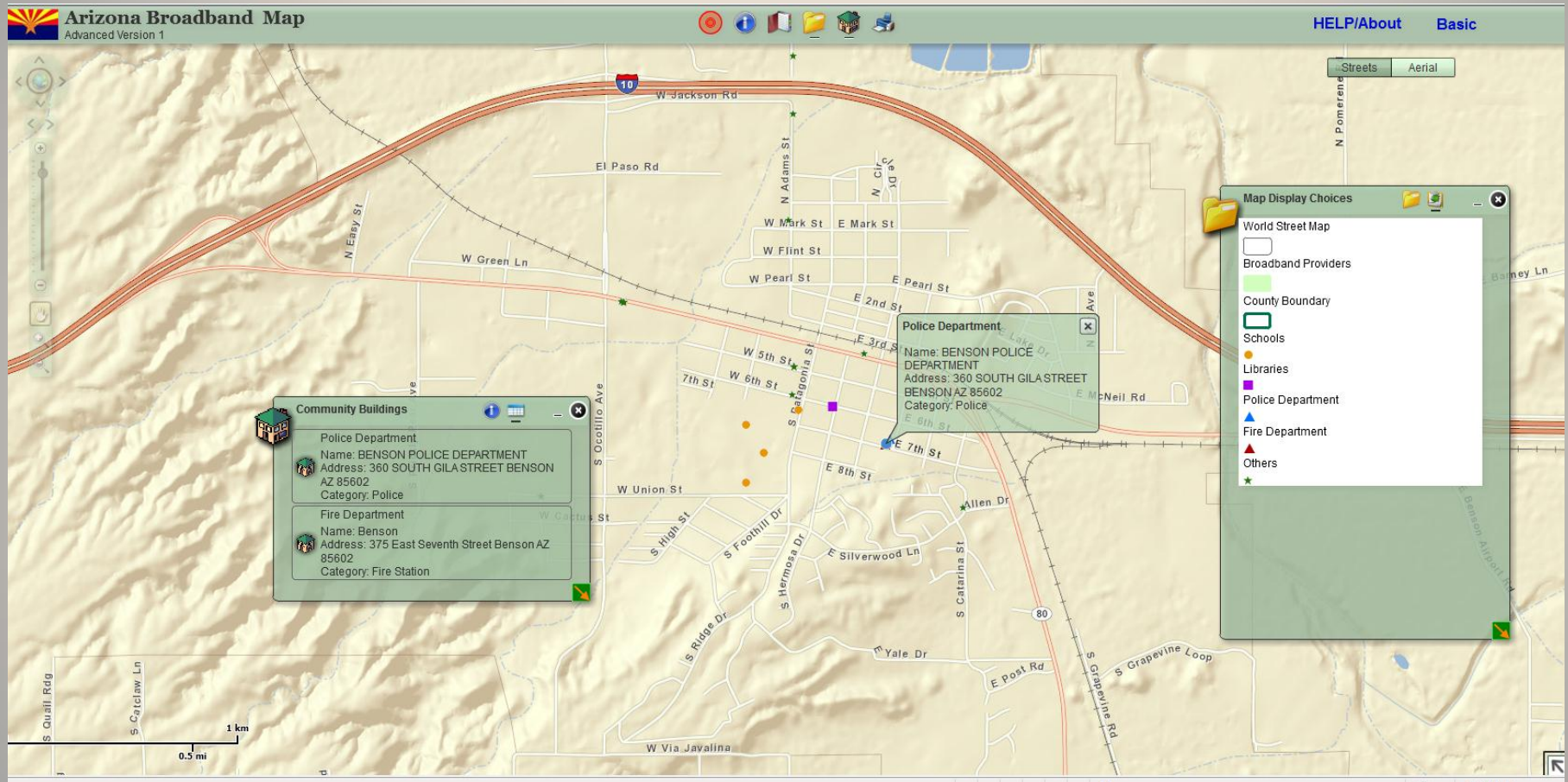
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Information identification - Community Anchor Institution
Data (currently as name, location and type of CAI)



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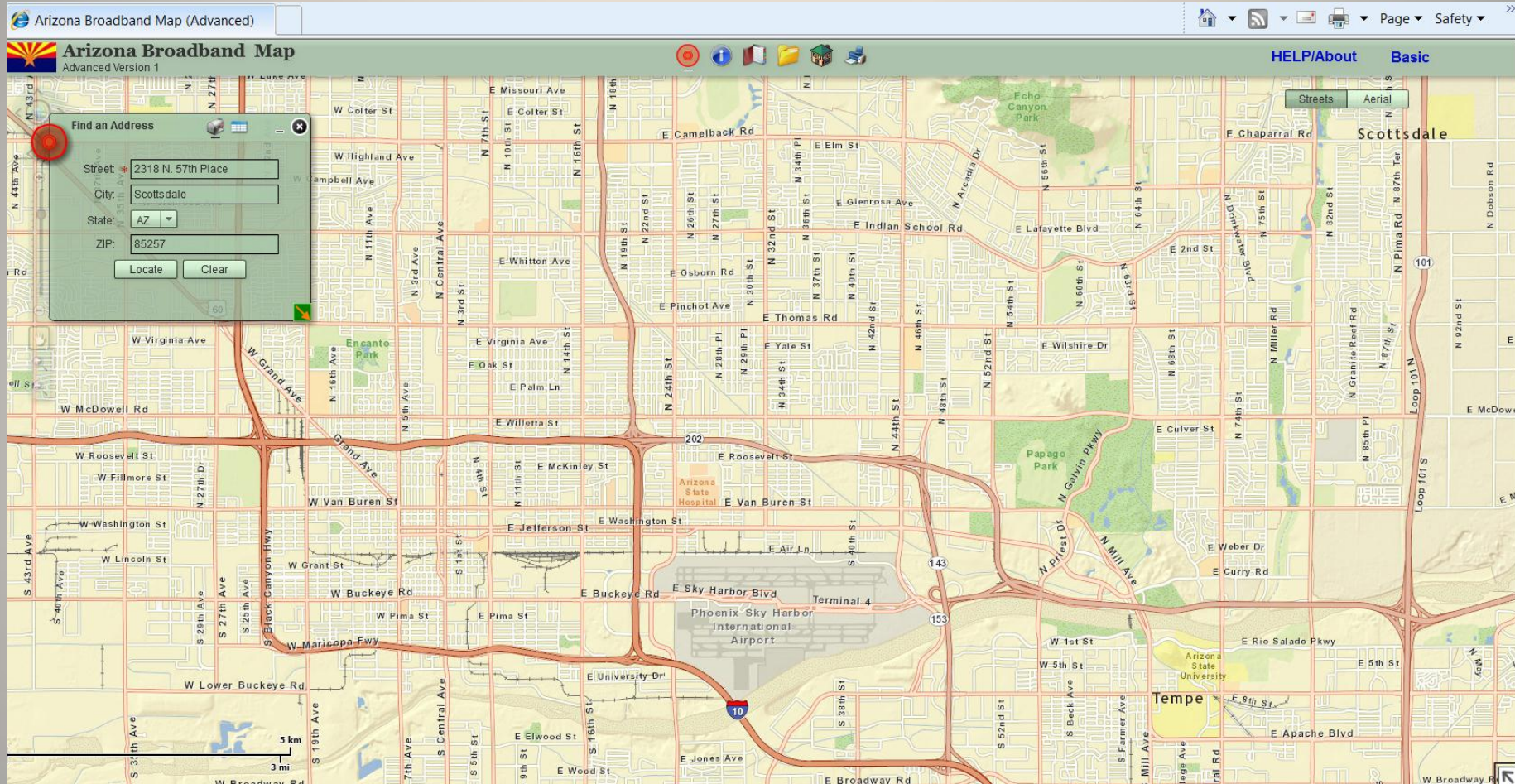
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User function – Zoom to address and identify



The Arizona Broadband Map

User function – Zoom to address and identify

The screenshot displays the Arizona Broadband Map (Advanced) web application. The main map area shows an aerial view of a residential area in Scottsdale, AZ. A red location pin is placed on the map, and a pop-up window titled "Broadband Providers" is displayed over it, showing details for Cox Communications: Service Type: Cable, Advertised Download Speed: 50 - 100 Mbps, Advertised Upload Speed: 3 - 6 Mbps, and the website <http://www2.cox.com>.

On the left side, there is a "Find an Address" panel with the text "Locations found: 7" and a list of addresses in Scottsdale, AZ, 85257. Below this is a "Broadband Providers" panel listing various providers and their service details:

- Broadband Providers**
 - Provider: Qwest Communications
 - Service Type: DSL (Asymmetric)
 - Advertised Download Speed: 25 - 50 Mbps
 - Advertised Upload Speed: 10 - 25 Mbps
- Broadband Providers**
 - Provider: Covad Communications
 - Service Type: T1/Tn
 - Advertised Download Speed: 3 - 6 Mbps
 - Advertised Upload Speed: 3 - 6 Mbps
- Broadband Providers**
 - Provider: Cox Communications
 - Service Type: Cable
 - Advertised Download Speed: 50 - 100 Mbps
 - Advertised Upload Speed: 3 - 6 Mbps
- Broadband Providers**
 - Provider: Airband
 - Service Type: Fixed Wireless
 - Advertised Download Speed: 6 - 10 Mbps
 - Advertised Upload Speed: 1.5 - 3 Mbps
- Broadband Providers**
 - Provider: Wydebeam
 - Service Type: Fixed Wireless
 - Advertised Download Speed: 1.5 - 3 Mbps
 - Advertised Upload Speed: 1.5 - 3 Mbps
- Broadband Providers**
 - Provider: Transcend Broadband
 - Service Type: Fixed Wireless
 - Advertised Download Speed: 3 - 6 Mbps
 - Advertised Upload Speed: 1.5 - 3 Mbps
- Broadband Providers**
 - Provider: Western WiMax
 - Service Type: Fixed Wireless
 - Advertised Download Speed: 6 - 10 Mbps
 - Advertised Upload Speed: 6 - 10 Mbps
- Broadband Providers**
 - Provider: AT&T Mobility
 - Service Type: Mobile Wireless
 - Advertised Download Speed: 1.5 - 3 Mbps
 - Advertised Upload Speed: 768 Kbps - 1.5 Mbps
- Broadband Providers**
 - Provider: Leap Wireless (Criset)
 - Service Type: Mobile Wireless
 - Advertised Download Speed: 768 Kbps - 1.5 Mbps

On the right side, there is a "Map Display Choices" panel with the following options:

- ☐ Community Buildings
- ☐ Broadband Types
- ☐ Download Speed
- ☐ City Boundary
- ☐ Land Ownership
- ☐ County Boundary
- ☒ Census Blocks
- ☒ Broadband Providers
- ☒ Neighboring States

The bottom of the screen shows a status bar with "Trusted sites | Protected Mode: Off" and a zoom level of "125%".



The Arizona Broadband Map

Data collection and Processing –Broadband Services Provider Data

- Data Site Consortium (DSC) is the State's primary project support contractor utilizing Terra Systems Southwest (TSSW) for GIS
- Biannual data collection from approx. 75 Arizona Broadband Providers (BPs) with DSC providing engagement & tech support
- Wide variety of format conversion processes due to variations in BP data. Reverse mapping from BP-supplied info & public sources as needed including wireless propagation modeling
- Trust, But Verify - BP data is error checked and interactively verified through market knowledge plus comparison with licensed data sources and crowd source real-world speed test results
- Data converted to the GIS format in accordance to NTIA specifications. Also provided to ASLD for use in the Arizona Broadband Map
- Adding metrics for Arizona coverage, concurrence with Federal crowd source data, and real-world vs. maximum advertised speeds



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Data collection and Processing Community Anchor Institution Data

- ASLD collects names and address of CAI data from a variety of sources: from custodial organizations (example AZ Dept. of Ed. for schools, ADOA state office buildings), and directly from agency websites. Any available broadband data is also collected
- ADOA – ASET utilizes the locational data base to collect broadband data.
- Data are integrated and standardized into an internal collection format
- The standardized address data are used to geocode street addresses to create X,Y locations and then to create two GIS data sets one of which is provided to NTIA the other used for publication (table) in the Arizona Broadband Map (geodatabase model)



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Potential Future Data Sets

- Broadband data at Community Anchor Institution locations
- Number of Broadband service providers at any location
- Maximum Download speed at any location
- Additional Community Anchor Institution data types such as large employers
- Speed test data – via crowd sourcing



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Thank You!

Questions?



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